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Remarks

In the outstanding Office Action, the Examiner objected to claims 42, 50 and 56 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner has rejected claims 46 and 49 under 35 U.S.C. 102(e) as being anticipated by United States Publication No. US 2004/0122155 A1 (hereinafter "Pazur"). The Examiner has rejected claims 39-41 and 43-44 under 35 U.S.C. 102(e) as being anticipated by WO 2005/014708 (hereinafter "Tour"). The Examiner has rejected claims 46 and 48-52 under 35 U.S.C. 102(b) as being anticipated by United States Patent No. US 5,840,796 (hereinafter "Badesha"). The Examiner has rejected claims 46-48 and 51-52 under 35 U.S.C. 102(b) as being anticipated by United States Publication No. US 2004/0135292 A1 (hereinafter "Coats"). The Examiner has rejected claims 54-59 under 35 U.S.C. 102(b) as being anticipated by United States Patent No. US 4,839,221 (hereinafter "Asaumi"). The Examiner has rejected claim 42 under 35 U.S.C. 103(a) as being unpatentable over Tour in view of United States Patent No. US 6,746,627 (hereinafter "Nui").

The applicant has cancelled claims 39-59 and is presenting new claims 60-86, of which, claims 60, 69 and 79 are in independent form. Favorable consideration of the present Response as currently constituted is respectfully requested.

Objection under 35 U.S.C. 112, first paragraph

The Examiner objected to claims 42, 50 and 56 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The applicant has cancelled claims 42, 50 and 56 and believes the objection is now moot. Applicant notes, however, that in new claims 63, 73 and 81 the term "dimension" has been used instead of the term "length" to describe the limitation of interest.

Rejection under 35 U.S.C. 102(e)

The Examiner has rejected claims 46 and 49 under 35 U.S.C. 102(e) as being anticipated by Pazur. The applicant has cancelled claims 46 and 49 and believes this rejection is now moot.

The Examiner has rejected claims 39-41 and 43-44 under 35 U.S.C. 102(e) as being anticipated by Tour. The applicant has cancelled claims 39-41 and 43-44 and believes this rejection is now moot.

Rejection under 35 U.S.C. 102(b)

The Examiner has rejected claims 46 and 48-52 under 35 U.S.C. 102(b) as being anticipated by Badesha. The applicant has cancelled claims 46 and 48-52 and believes this rejection is now moot.

The Examiner has rejected claims 46-48 and 51-52 under 35 U.S.C. 102(b) as being anticipated by Coats. The applicant has cancelled claims 46-48 and 51-52 and believes this rejection is now moot.

The Examiner has rejected claims 54-59 under 35 U.S.C. 102(b) as being anticipated by Asaumi. The applicant has cancelled claims 54-59 and believes this rejection is now moot.

Rejection under 35 U.S.C. 103(a)

The Examiner has rejected claim 42 under 35 U.S.C. 103(a) as being unpatentable over Tour in view of Nui. The applicant has cancelled claim 42 and believes this rejection is now moot.

New Claims

The applicant has presented new claims 60-86 that applicant believes are patentably distinguishable over the cited prior art. Specifically, claim 60 recites a seal element comprising an elastomer host material and a nanomaterial integrated with the elastomer host material to form a nanocomposite material, wherein the nanomaterial is selected from carbon nanotubes and carbon nanofibers and wherein the seal element is positioned between and in sealing contact with first and second downhole components. As acknowledged by the Examiner, none of the cited art teaches the use of a nanocomposite seal in a downhole tool. Accordingly, applicant

believes that claim 60 as well as claims 61-68 that depend therefrom should be allowed.

Claim 69 recites a seal element comprising an elastomer host material and a nanomaterial integrated with the elastomer host material to form a nanocomposite material, wherein the nanomaterial is a nanoclay and wherein the seal element is positioned between and in sealing contact with first and second downhole components. As acknowledged by the Examiner, none of the cited art teaches the use of a nanocomposite seal in a downhole tool. Accordingly, applicant believes that claim 69 as well as claims 70-78 that depend therefrom should be allowed.

Claim 79 recites a seal element comprising a thermoplastic host material and a nanomaterial integrated with the thermoplastic host material to form a nanocomposite material, wherein the nanomaterial is selected from carbon nanotubes and carbon nanofibers and wherein the seal element is positioned between and in sealing contact with first and second downhole components. As acknowledged by the Examiner, none of the cited art teaches the use of a nanocomposite seal in a downhole tool. Accordingly, applicant believes that claim 79 as well as claims 80-86 that depend therefrom should be allowed.

Fee Statement

Compared to the initial filing, the number of independent claims has remained the same and the total number of claims has been reduced. This response is being filed in conjunction with a Request for Continued Examination. Form PTO-2038 is enclosed herewith authorizing payment of \$790.00 for the RCE fee. Applicant believes no additional fees are due for the filing of this response. If any additional fees are due or any overpayments have been made, however, please charge or credit our deposit account (Deposit Account No. 03-1130).

Conclusion

In view of the forgoing, the Examiner is respectfully requested to allow claims 60-86 presented for consideration herein. Accordingly, a favorable action in the form of an early notice of allowance is respectfully requested. The Examiner is requested to call the undersigned for any reason that would advance the instant application to issue.

Dated this 19th day of January, 2007.

Respectfully submitted:



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